



1999 Total Solar Eclipse

By NELSON ARNSTEIN, M.D.

All photographs were taken from the aft deck of the cruise ship *Marco Polo* in the Black Sea. Click on each photo to see a larger image.

The most spectacular image (above right) is the solar corona—or the sun's outer atmosphere—photographed with a time exposure during the total eclipse and giving the impression of an awesome cosmic flower. The total phase of the eclipse lasted 2 minutes and 21 seconds, a short time to capture the images.

The “diamond ring” effect (above left) is seen at the beginning and the end of totality. Both photographs were taken on color negative with a 35-mm single lens reflex camera attached to an astronomical telescope giving a focal length of approximately 800 mm.

As the moon's shadow passes overhead at 1,500 mph, the eclipse produces a “360-degree twilight” (left), captured by a fisheye lens used to image the entire sky.

Perhaps the most memorable aspect of a solar eclipse is the effect it has on the people observing it. Their reactions made headlines throughout Europe and the Middle East. There were even special stamps issued in Britain and a commemorative coin from Turkey.

Three ODE III medical officers witnessed the total eclipse: **John Senior, M.D.**, and **Lilia Talarico, M.D.**, from the Division of Gastrointestinal and Coagulation



Drug Products, and myself.

Nelson Arnstein, an avid amateur astronomer, is a medical officer in the Division of Medical Imaging and Radiopharmaceutical Drug Products.

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